



Department of Building & Fire Prevention

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SUBJECT: TG-75-2016 STORAGE RACKS

1.0 PURPOSE: The purpose of this technical guideline is to specify the building permit application, submittal documentation, and inspection requirements for storage racks.

2.0 SCOPE: Building permits for storage rack installations are required in accordance with the Clark County Building Administrative Code, the IBC, and the referenced standards.

3.0 ABBREVIATIONS & ACRONYMS:

BAC: Building Administrative Code of Clark County

CCBD: Clark County Building Department

IBC: International Building Code

RDP: Registered Design Professional

QAA: Quality Assurance Agency

QAA-SIA: Quality Assurance Agency Special Inspection Agreement

TG: Technical Guideline

4.0 DEFINITIONS: For the purposes of this TG certain terms, phrases, words and their derivatives shall be construed as specified in this section and the BAC.

Approved Construction Document: Construction documents that have been reviewed and accepted for permit by the Building Official pursuant to the BAC.

REVISED DATE: JULY 18, 2016

EFFECTIVE DATE: SEPTEMBER 5, 2016

Revised By:	Concurred By:	Approved By:
<i>John Telford</i>	<i>Theodore L. Droessler</i>	<i>Ronald L. Lynn</i>
John S. Telford, P.E. Principal Engineer	Theodore L. Droessler, P.E. Manager of Engineering	Ronald L. Lynn Director/Building Official

Certificate of Compliance: A certificate from a Clark County approved fabricator stating that materials and products meet specified standards or that work was done in compliance with approved construction documents.

Registered Design Professional: An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

5.0 REFERENCES:

BAC	Clark County Building Administrative Code
IBC	International Building Code
SNA-IBC	Southern Nevada Amendments to the International Building Code
ANSI/MH16.1	Specification for Design, Testing and Utilization of Industrial Steel Storage Racks, current adopted edition

6.0 RESPONSIBILITIES:

6.1 CCBD:

CCBD shall require building permits and inspections as specified in the scope of this Technical Guideline.

6.2 Owner:

The owner shall employ licensed contractor and obtain the necessary documentation in order to obtain a building permit.

6.3 Licensed Contractor:

The licensed contractor shall secure the required building permit, construct the storage racks in accordance with the approved construction documents, and call for all required building and special inspections as required in this TG.

7.0 PROCEDURE:

7.1 **Building Permit and Submittal Documentation Requirements:** Building permits and submittal documentation shall be in accordance with the requirements in Table A below.

Table A – Permit and Documentation Requirements

RACK DESCRIPTION	BUILDING PERMIT REQUIREMENT	REQUIRED DOCUMENTATION
1. Racks less than or equal to 8 feet in height ¹	Exempt per the BAC	None required. Install per manufacturer's recommendations.
2. Small installations as defined per ANSI/MH16.1 section 1.4.8: a.) height ¹ greater than 8 feet to 12 feet <p style="text-align: center;">and</p> b.) a unit load not exceeding 2,500 lbs. <p style="text-align: center;">and</p> c.) covering a floor area less than 3,000 sf (not including aisles)	Yes	Copy of signed contract for valuation determination. Site plan showing the location of the site. Floor plan identifying location of rack(s), exiting, and aisle widths. Fully dimensioned elevation view of each rack configuration. Unit Load – Total weight of material to be stored on the rack consisting of the product load and pallet weight. Note requiring 50 square inch permanent plaque showing the maximum permissible unit load in clear, legible print to be displayed conspicuously in one or more locations. Note stating multiple stacking on the top shelf is not allowed. Name of rack manufacturer. State if racks are new or used. Fire Department Survey Form. If any boxes are checked "yes" must either have Fire Department signature on the form or a copy of the Fire Department permit. Calculations and installation details with the current evaluation report number sealed by a RDP for the rack
3. Rack installations not meeting the conditions of item 1 or 2 above	Yes	Must meet small installation documentation and additionally the following. Calculations and rack installation drawings sealed by a RDP verifying compliance to the IBC, ASCE 7, and ANSI/MH16.1. Manufacturer span tables do not substitute for site specific calculations. Calculations must also evaluate the existing slab capacity. Plans must call out all material specifications, member sizes, and connections.

¹ The height of the rack is measured from the bottom of the column base plate to top shelf.

- 7.1.1 The applicant shall submit a building permit application with the appropriate documentation as outlined in Table A above. The applicant shall state on the application if the storage racks are new or used. Plans will be routed to Zoning, Building Plans Examination, and Engineering.
- 7.1.2 Each section shall review the required documentation in accordance with the appropriate code or referenced standard. Storage racks located outside a building may require additional documentation.
- 7.1.3 Engineering shall note the required special inspections in Naviline. Special inspection of the anchorage will be as required by the current evaluation report. A structural steel special inspection of the rack structure will be required for all racks classified as item 3 in Table A above.
- 7.1.4 Engineering shall provide a note on the permit stating the name of the rack manufacturer and their Clark County fabricator approval status.
- 7.1.5 Racks installed without required permits, racks manufactured by a non-Clark County approved fabricator, and used rack shall require a work plan prepared by a RDP that outlines how to perform the special inspections.
- 7.1.5 Work plans for racks shall, at a minimum, require a 100% visual inspection of the members to identify any damaged members and verify member sizes and a 100% visual inspection of all welds. 100% special inspection of all anchorage shall be required to verify anchor type, diameter, embedment depth, and torque (as required). Additional verification may be required.
- 7.1.7 All building permits for storage racks must be approved by Zoning, Building Plans Examination, and Engineering prior to permit issuance.
- 7.2 **Inspection Requirements:** After building permit issuance, the building inspector shall verify the following on each rack installation.
 - 7.2.1 Review the building permit, approved plans, and the QAA-SIA.
 - 7.2.2 Review the special inspector's daily reports for the required special inspections. Ensure that all non-compliance reports have been resolved.
 - 7.2.3 Verify that the storage rack layout and configuration matches the approved plans.
 - 7.2.4 Verify that the load plaque is displayed per the approved plans.
 - 7.2.5 Verify anchorage has been installed per the approved plans.

7.2.6 For racks classified as item 3 per Table A in section 7.1 verify the rack installation matches the approved rack installation drawings prepared by the RDP.

8.0 RECORDS:

All documents associated with the storage rack permit and inspections shall be sent to the Records Division.

9.0 ATTACHMENTS:

None.

10.0 REVISION HISTORY:

Title	Revision/Approved Date	Effective Date
TG-75-2013	August 5, 2013	September 5, 2013
TG-75-2016	July 18, 2016	September 5, 2016